

**Executive Order VR-202-E
Healy Phase II EVR System
Including In-Station (ISD) System**

**Exhibit 9
ISD Operability Test Procedure**

The following procedures shall be used at field sites to determine the operability of the Veeder-Root ISD system to satisfy the requirements documented in VAPOR RECOVERY CERTIFICATION PROCEDURE, CP-201, CERTIFICATION PROCEDURE FOR VAPOR RECOVERY SYSTEMS AT GASOLINE DISPENSING FACILITIES. Testing the ISD equipment in accordance with this procedure will verify the equipment's operability for Vapor Containment Monitoring and Vapor Collection Monitoring.

Veeder-Root's TLS console ISD System Self-Test Monitoring algorithms are designed to verify proper selection, setup and operation of the TLS console modules and sensors and will not complete and report passing test results in the event of a failure of components used in the system. Completed ISD monitoring tests are evidence that:

- The system was properly powered for data collection
- All necessary ISD sensors were setup and connected
- All necessary ISD sensors were operating within specification
- All internal components including TLS console modules were properly setup and operating within specification

Veeder-Root recommends printing a copy of the ISD ALARM STATUS and ISD DAILY report (REF. Section 5, Operation of the ISD Install, Setup & Operation Manual) periodically to determine that compliance tests are being completed in accordance with local and state regulations.

A step-by-step worksheet for recording data from the following operability tests is provided at the end of this Exhibit.

Note that districts may require use of an alternate form to meet these requirements, provided the alternate form includes the same minimum parameters.

Vapor Pressure Sensor Ambient Reference Test

The following procedure shall be used at field sites to determine if the Vapor Pressure Sensor is reading properly in accordance with Veeder-Root ISD specifications.

1. Access the Vapor Pressure Sensor in the dispenser. Record which dispenser contains the pressure sensor and the pressure sensor serial number on the data form.
2. Remove the cap from the ambient reference port of the Vapor Pressure Sensor valve and open the valve to atmosphere by turning it 90 degrees so that the flow arrows point to both the Vapor Pressure Sensor sensing port and the ambient reference port (see Figure 4-1).
3. Start at the 'DIAG MODE' menu at the TLS Console front panel to enter the 'Calibrate SmartSensor' menu as shown in Figure 4-2 to view the non-calibrated pressure value.
4. Verify that the pressure value is between +0.2 and -0.2 inches water column (IWC). If the pressure value is not within this range, the pressure sensor is not in compliance with the pressure sensor requirements of Exhibit 2.
5. Replace the cap on the ambient reference port of the Vapor Pressure Sensor valve. Restore the Vapor Pressure Sensor valve by turning it 90 degrees so that the flow arrows point to both the Vapor Pressure Sensor sensing port and the UST vapor space sensing line (ref. Figure 4-1).
6. Press the <MODE> key to leave the 'Calibrate SmartSensor' menu. Note: Do not calibrate the sensor!

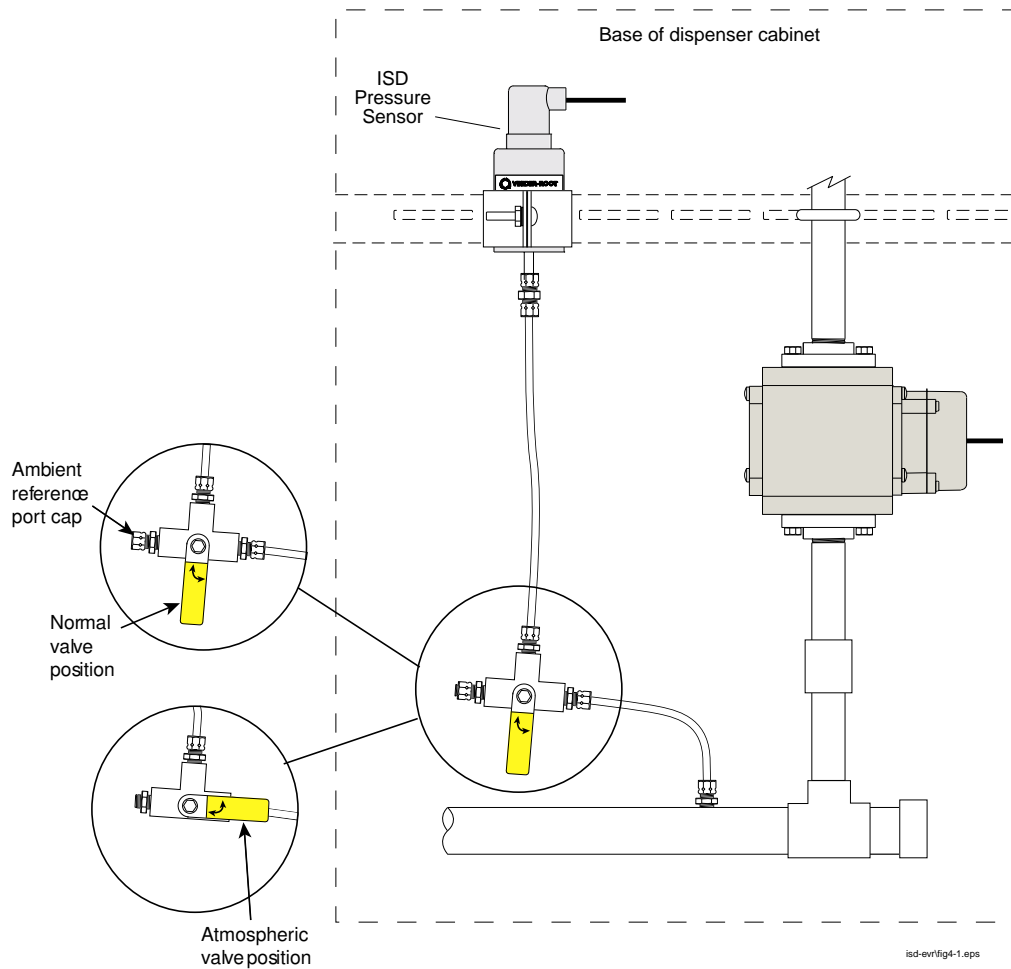


Figure 4- 1. Vapor pressure sensor valve position

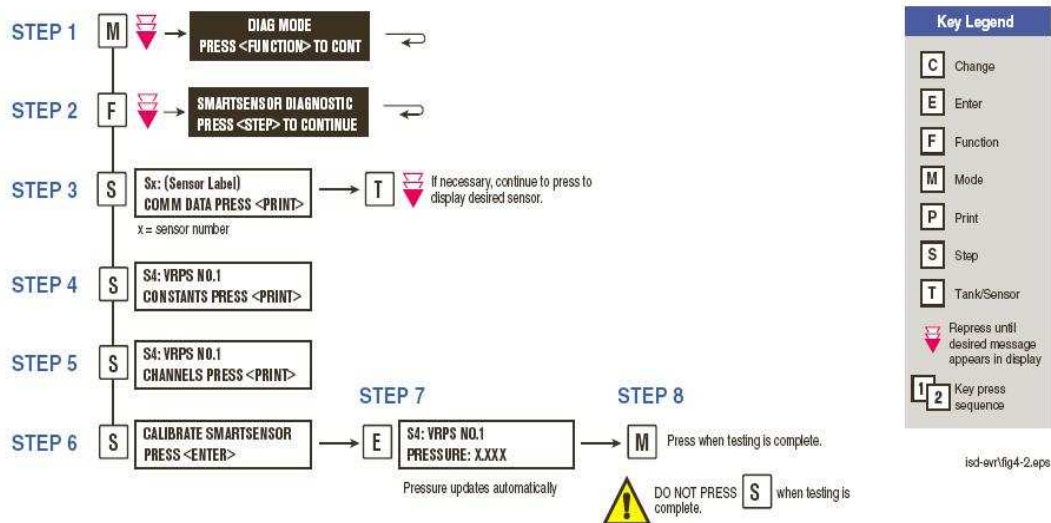


Figure 4- 2. Accessing Calibrate SmartSensor diagnostic menu

Vapor Flow Meter Operability Test

1. Connect a notebook PC – See figure 5-9 of the ISD Install, Setup & Operation Manual. Run Veeder-Root's "ISD PC Setup Tool", v1.03 or higher, to the dedicated TLS serial port that is required for ISD reports access. Using the tool, access the individual fueling point "dispensing event ISD A/L" results as needed in this test procedure. These results are compared to the manually measured V/L's in the procedure. Training on use of the tool is provided as part of the Veeder-Root training program for ISD. A trained service technician must be present when performing this operation.
2. Select a dispenser and note the fueling point numbers on the data form. Obtain the vapor flow meter serial number (available from the EVR/ISD Setup Printout – see Figure 3-6 in the ISD Install, Setup & Operation Manual). Record the serial number on the data form.
3. Conduct a Healy EVR Phase II system V/L test per Exhibit 5 of VR-202-E with lowest grade fuel available on that dispenser to obtain a V/L result.
4. Obtain the corresponding ISD A/L value for that V/L test obtained from the TLS using the "ISD PC Setup Tool".
5. Compare the ISD A/L value for that dispenser hose to the V/L result (subtract V/L result from A/L value and note difference on the form).

Pass: If the difference is between -0.15 and +0.15, then the ISD A/L value is within +/- 0.15 of the V/L result. Circle "Pass" to document that the ISD flow meter in that dispenser passes and repeat the procedure beginning at Step 2 for the next dispenser.

Continue: If the ISD A/L value is NOT within +/- 0.15 of the V/L result, then go to Step 6.

6. Run two more V/L tests per Exhibit 5 with lowest grade fuel on the same hose and average the two results with the first V/L result from Step 3.
7. Obtain the corresponding two ISD A/L values from the TLS and average the two values with the first ISD A/L value from Step 4.
8. Compare the average of the 3 ISD values for that hose to the average of the 3 V/L results (subtract V/L average from A/L average and note difference on the form).

Pass: If the ISD A/L average is within ± 0.15 of the average of the 3 V/L results, the ISD flow meter in that dispenser passes the operability test. Go to the next dispenser and repeat the procedure beginning at Step 2.

Continue: If the ISD A/L average is NOT within ± 0.15 of the average of the 3 V/L test results, then go to Step 9.

9. If a second fueling position is available on the dispenser, repeat the tests beginning at Step 3 for the second fueling position. If the second fueling position tests do not pass Steps 3 through 8, then the flow meter is not in compliance with the requirements of Exhibit 2.

Site Shutdown Test

This test must be performed by a certified Veeder-Root contractor.

1. Remove power from TLS console.
2. Confirm power to submersible pumps is off by verifying that gasoline dispensing has been disabled.
3. Restore power to TLS console.

Operability Test Procedure Data Forms

Use these forms to check off and record the results from the ISD Operability Testing Procedure steps.

Vapor Pressure Sensor Ambient Reference Test

DATE OF TEST _____	
SERVICE COMPANY NAME	SERVICE COMPANY'S TELEPHONE
SERVICE TECHNICIAN	VEEDER-ROOT TECH CERTIFICATION #
STATION NAME	DISTRICT PERMIT #
STATION ADDRESS	CITY STATE ZIP

STEP 1.	PRESSURE SENSOR LOCATION: DISPENSER FUELING POINT NUMBERS FP____/FP____	PRESSURE SENSOR SERIAL NUMBER _____
STEP 2.	REFERENCE PORT CAP REMOVED? <input type="checkbox"/> VALVE SET TO REFERENCE PORT (PER FIG. 4-1)? <input type="checkbox"/>	
STEP 3.	NON-CALIBRATED SENSOR VALUE _____ INCHES OF WATER COLUMN (OBTAIN VALUE USING TLS CONSOLE KEYPAD SEQUENCE SHOWN IN FIG. 4-2, STEP 7)	
STEP 4.	PRESSURE BETWEEN +0.20 & -0.20 (Y/N)? <input type="checkbox"/> IF NO: THE PRESSURE SENSOR IS NOT IN COMPLIANCE WITH THE PRESSURE SENSOR REQUIREMENTS OF EXHIBIT 2.	
STEP 5.	REFERENCE PORT CAP REPLACED? <input type="checkbox"/> VALVE SET TO VAPOR SPACE PORT (PER FIG 4-1)? <input type="checkbox"/>	
STEP 6.	MODE KEY PRESSED TO EXIT CALIBRATE SMARTSENSOR MENU? <input type="checkbox"/>	

**Veeder-Root In-Station Diagnostics (ISD)
Vapor Flow Meter Operability Test Procedure**

DATE OF TEST _____	
SERVICE COMPANY NAME	SERVICE COMPANY'S TELEPHONE
SERVICE TECHNICIAN	VEEDER-ROOT TECH CERTIFICATION #
STATION NAME	DISTRICT PERMIT #
STATION ADDRESS	CITY STATE ZIP

STEP 2.	VAPOR FLOW METER SERIAL NUMBER _____		
	DISPENSER FUELING POINT NUMBERS FP _____ FP _____		
STEP 3.	LOW GRADE FUEL HOSE *V/L RESULT #1 (ONE FP ONLY)		
STEP 4.	ISD A/L VALUE #1 CORRESPONDING TO RESULT IN STEP 3		
STEP 5.	STEP 4. VALUE MINUS STEP 3. VALUE	DIFF.	DIFF.
	PASS IF DIFFERENCE IS WITHIN +/-0.15, IF LARGER DIFFERENCE, THEN CONTINUE TO STEP 6 (CIRCLE ONE)	PASS CONTINUE TO STEP 6	PASS CONTINUE TO STEP 6
STEP 6.	LOW GRADE FUEL HOSE V/L RESULT #2		
	LOW GRADE FUEL HOSE V/L RESULT #3		
	AVERAGE OF 3 V/L RESULTS	AVG.	AVG.
STEP 7.	ISD A/L VALUE #2		
	ISD A/L VALUE #3		
	AVERAGE OF 3 A/L VALUES	AVG.	AVG.

**Veeder-Root In-Station Diagnostics (ISD)
Vapor Flow Meter Operability Test Procedure**

DATE OF TEST _____			
STEP 8.	STEP 7. AVG MINUS STEP 6. AVG.	DIFF.	DIFF.
	PASS IF DIFFERENCE IS WITHIN +/-0.15, IF LARGER DIFFERENCE, THEN CONTINUE TO STEP 9.	PASS CONTINUE TO STEP 9	
STEP 9.	IF CONTINUE, REPEAT AT STEP 3. FOR 2 ND FP USING 2 ND FP COLUMN, ABOVE.		

*Measure V/L using test procedure in Exhibit 5 of VR-202-E.

**Veeder-Root In-Station Diagnostics (ISD)
Site Shutdown Test**

DATE OF TEST _____	
SERVICE COMPANY NAME	SERVICE COMPANY'S TELEPHONE
SERVICE TECHNICIAN	VEEDER-ROOT TECH CERTIFICATION #
STATION NAME	DISTRICT PERMIT #
STATION ADDRESS	CITY STATE ZIP

STEP 1.	POWER REMOVED FROM TLS CONSOLE?	<input type="checkbox"/>
STEP 2.	POWER TO SUBMERSIBLE PUMPS REMOVED BY TLS? (VERIFY GASOLINE FUELING DISABLED)	<input type="checkbox"/>
STEP 3.	POWER RESTORED TO TLS CONSOLE?	<input type="checkbox"/>

COMMENTS (INCLUDE DESCRIPTION OF REPAIRS MADE)
